

## ABSTRACT

The invention provides a semiconductor device with improved electric characteristics, having a nonvolatile memory employing a split-gate type memory cell structure and using a nitride film as a charge storage layer. An n-type semiconductor region is formed in a main surface of a semiconductor substrate and, after that, a memory gate electrode of a memory cell of a split gate type and a charge storage layer are formed over the semiconductor region. Subsequently, side walls are formed on side surfaces of the memory gate electrode and a photoresist pattern is formed over the main surface of the semiconductor substrate. The photoresist pattern is used as an etching mask and a part of the main surface of the semiconductor substrate is removed by etching to form a dent. In a region of forming the dent, the n-type semiconductor region is removed. After that, a p-type semiconductor region for forming a channel of an nMIS transistor for selecting a memory cell is formed in the region for forming the dent.